

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) Lock cylinder consisting of a cylinder housing (10.3; 10.4) and a cylinder core (20.3; 20.4), which is supported (11) rotatably in the housing,
 - a key with a defined longitudinal profile being assigned to the core,
 - with a group of diametric shafts (23.3; 23.4) arranged in a row in the axial direction of the cylinder core (20.3; 20.4),
 - which hold plate-shaped tumblers (31.3-34.3; 31.4-33.4), the longitudinal edges (30.1; 30.2) of which are free to slide longitudinally along guide surfaces (21; 21) of the shaft (23.3), the tumblers also being spring-loaded (13.3; 13.4) in one of the two directions of their movement;
 - where each tumbler (31.3-34.3; 31.4-34.4) has a control edge (41.3-44.3; 41.4-43.4) in correspondence with the longitudinal profile of the key, each control edge being located at a defined height;

-- with a radial opening (61.3; 61.4) in the cylinder core (20.3; 20.4) and an insert (62.3; 62.4), which can be inserted into the opening;

-- the outer end (63.3; 63.4) of which never projects insert ~~does not project~~ beyond the external contour of the cylinder core (20.3; 20.4) after ~~its~~ insertion of the insert in the opening, the insert being fixed in position in the opening, whereas the inner end (64.3; 64.4) always engages in a cutout (36.3; 36.4) in the facing edge of the longitudinal plate edge (30.2) of the tumbler (31.3-34.3; 31.4-34.4);

-- as a result of which the ~~spring-loaded~~ tumblers (31.3-34.3; 31.4-34.4) are secured in the cylinder core (20.3; 20.4) before the core is installed in the housing (10.3; 10.4) thereby preventing loss of the tumblers ~~and thus a loss-prevention function is provided;~~

wherein

-- the insert consists of a comb-like body (comb 62.3; 62.4) with teeth (36.3, 36.3; 36.4, 36.4'), the inner ends (64.3; 64.4) of which have a profile with at least one pair of oppositely-facing flanks (flank pair 37.3a/38.3a, 37.3i/38.3i; 37.4/38.4, 37.4'/38.4');

-- whereas the cutouts (26.3; 26.4) in the tumblers (31.3-34.3; 31.4-34.4) have at least one pair of opposing flanks

(opposing flank pair 27.3a/28.3a; 27.3i/28.3i; 27.4a/28.4a; 27.4i/28.4i), which are in different positions on the tumblers (31.3-34.3; 31.4-34.4) which have their control edges (41.3-44.3; 41.4-43.4) at different heights; in that

-- the flank pairs (37.3a/38.3a, 37.3i/38.3i; 37.4/38.4, 37.4' /38.4') and the opposing flank pairs (27.3a/28.3a, 27.3i/28.3i; 27.4a/28.4a, 27.4i/28.4i) are arranged in such a way that, after the comb (62.3; 62.4) has been inserted and the key has been withdrawn, the control edges (41.3-44.3; 41.4-43.4) of at least two tumblers (31.3-34.3; 31.4-34.4) are at the same height (50.4, 60.3, 60.4; 50.5, 60.5, 60.6), which thus conceals the actual position of the control edges (41.3-44.3; 41.4-43.4),

-- when, in the rest position of the ~~spring-loaded~~ (13.3; 13.4) tumblers (31.3-34.3; 31.4-34.4), one of the flanks (38.3i) rests against one of the opposing flanks (28.3i) and/or

-- when, in an actuated position, after maximum displacement (77) of the tumblers (31.3-34.3; 31.4-34.4) by a lock-picking tool, the other flank (37.3i) meets the other opposing flank (27.3i).

2. (Previously presented) Lock cylinder according to Claim 1, wherein a set of different combs (62.3; 62.4) is assigned to a plurality of similar cylinder cores (20.4), the teeth (36.3,

36.3'; 36.4, 36.4') of the combs being provided with different profiles.

3. (Previously presented) Lock cylinder according to Claim 1, wherein a set of different combs (62.3; 62.4) is assigned to a plurality of similar cylinder cores (20.4),

-- where the teeth (36.3, 36.3'; 36.4, 36.4') of the combs have similar profiles and are arranged in either the normal or reversed position as desired and/or in different sequences on the comb (62.3; 62.4);

-- where, in order to increase the number of variations of the lock cylinder, one of these different combs (62.3; 62.4) is selected and inserted into one of the cylinder cores (20.3; 20.4) of uniform type.

4. (Previously presented) Lock cylinder according to Claim 1, wherein the profiles of all the teeth (36.3, 36.3'; 36.4, 36.4') on the comb are of similar design.

5. (Previously presented) Lock cylinder according to Claim 1, wherein the opposing flanks (27.3a/28.3a; 27.3i/28.3i; 27.4a/28.4a; 27.4i/28.4i) of the cutouts (26.3; 26.4) are offset from each other in the height direction in the case of the

tumblers (31.3-34.3; 31.4-34.4) with control edges (41.3-44.3; 41.4-43.4) in different positions.

6. (Previously presented) Lock cylinder according to Claim 1, wherein the inner ends (64.3; 64.4) of the teeth (36.3, 36.3'; 36.4, 36.4') of the comb are convexly profiled in the radial direction with at least two pairs of flanks (37.3a/38.3a; 37.3i/38.3i; 37.4/38.4; 37.4'/38.4'), which are arranged in sequence in the direction of longitudinal movement and are at different heights; in that

-- the cutouts (26.3; 26.4) in the tumblers (31.3-34.3; 31.4- 34.4) are concavely profiled in the radial direction and have sections which form at least two pairs of opposing flanks (27.3a/28.3a; 27.3i/28.3i; 27.4a/28.4a; 27.4i/28.4i), which are arranged in sequence in the direction of longitudinal movement and are offset from each other in the height direction.

7. (Currently Amended) Lock cylinder according to Claim 1, wherein, ~~although~~ all of the teeth have essentially the same convex profile at their inner ends (64.3; 64.4), they are positioned in similar openings of the cylinder core (20.3; 20.4) in two different laterally reversed orientations (normal teeth

~~teeth~~ 36.3; 36.4 / reversed teeth ~~teeth~~ 36.3', 36.4'); and in that

-- the pairs of flanks (37.3a/38.3a, 37.3i/38.3i; 37.4/38.4, 37.4'/38.4') of the normal teeth (36.3; 36.4) are laterally reversed with respect to those of the reversed teeth (36.3'; 36.4').

8. (Previously presented) Lock cylinder according to Claim 7, wherein the normal tooth (36.3; 36.4) of the inserted comb (62.3; 62.4) is laterally reversed with respect to a transverse plane, which passes diametrically through the cylinder core (20.3; 20.4) in the area of the axis and extends transversely to the spring-loading (13.3; 13.4) of the tumblers (31.3-34.3; 31.4-34.4).

9. (Previously presented) Lock cylinder according to Claim 1, wherein the maximum point of the tooth profile (36.3, 36.3') positioned in the cylinder core (20.3) lies essentially on the transverse plane (71.3) of the cylinder core (20.3).

10. (Previously presented) Lock cylinder according to Claim 9, wherein a tooth (36.3; 36.3') of the comb has two pairs of flanks (37.3a/38.3a; 37.3i/38.3i), namely, an inner pair

(37.3i/38.3i), which is closer to the transverse plane (71.3) of the cylinder core (20.3), and an outer pair (37.3a/38.3a), which is farther away from the transverse plane (71.3).

11. (Previously presented) Lock cylinder according to Claim 10, wherein the flanks of inner flank pair (37.3i/38.3i) are symmetrical to the transverse plane (71.3) of the cylinder core (20.3),

-- whereas the flanks (37.3a, 38.3a) of the outer flank pair are asymmetric with respect to the transverse plane (71.3).

12. (Previously presented) Lock cylinder according to Claim 1, wherein the flanks of the inner flank pair (37.3i/38.39) are parallel to the transverse plane (71.3), whereas

-- the flanks of the outer flank pair (37.3a/38.3a) are positioned at an angle to the transverse plane (71.3).

13. (Previously presented) Lock cylinder according to Claim 12, wherein the two outer flanks (37.3a, 38.3a) are angled in the same way as essentially mirror images of each other.

14. (Previously presented) Lock cylinder according to Claim 13, wherein the length of one of the outer flanks (37.3a) is different from that of the other outer flank (38.3a).

15. (Previously presented) Lock cylinder according to Claim 1, wherein the maximum points of the teeth (36.4, 36.4') of the inserted comb (62.4) are located a certain distance away in the height direction from the transverse plane (71.4) of the cylinder core (20.4).

16. (Previously presented) Lock cylinder according to Claim 15, wherein the convex profile serving to control the tumbler (31.4-34.4) is positioned at one end of the tooth (36.4, 36.4').

17. (Previously presented) Lock cylinder according to Claim 15, wherein the convex profile of the normal tooth (36.4) is an exact mirror image of the profile of the reversed tooth (36.4') in the direction of the longitudinal movement of the tumblers (41.4-4.4).

18. (Currently Amended) Lock cylinder according to Claim 15, wherein, ~~although~~ the convex profile of the teeth (36.4, 36.4') has only one pair of flanks (37.4/38.4; 37.4'/38.4'), one

of the flanks (37.4, 37.4') has a form different from that of the other flank (38.4, 38.4').

19. (Previously presented) Lock cylinder according to Claim 18, wherein one of the flanks (38.4, 38.4') is essentially parallel to the transverse plane (71.4) of the cylinder core (20.4), whereas the other flank (47.4, 47.4') forms an angle with that plane.

20. (Previously presented) Lock cylinder according to Claim 15, wherein the normal teeth (36.4) and the reversed teeth (36.4') are arranged in an alternating sequence in the successive shafts (23.4) of the cylinder core (20.4).

21. (Previously presented) Lock cylinder according to Claim 20, wherein the comb (62.3, 62.4), has an even number of teeth (36.4, 36.4'); and in that

-- the comb (62.4) can be inserted into the cylinder core (20.4) with either one of two different orientations, one the reverse of the other,

-- where the comb (62.4) begins with a normal tooth (36.4) when inserted with one of the two orientations, whereas a

reversed tooth (36.4') is at the front of the comb (62.4) when the comb is inserted with the other orientation.

22. (Currently Amended) Lock cylinder according to Claim 1, wherein, ~~although~~ the cutouts (26.3; 26.4) in the individual tumblers (31.3-34.3; 31.4-34.4) are of similar design, and they have different dimensions as a function of the height position of the control edge (41.3-44.3; 41.4-44.4).

23. (Previously presented) Lock cylinder according to Claim 23, wherein the cutouts (26.3) are designed with two steps and thus produce two pairs of opposing flanks (27.3a-28.3i) at different depths,

-- namely, an inner pair of opposing flanks (27.3i, 28.3i) on the lower step of the cutout (26.3) and an outer pair (27.3a, 28.3a) on the upper step.

24. (Previously presented) Lock cylinder according to Claim 23, wherein the cutout (26.4) has a separating web (74.1-74.4), and in that

-- as a function of the height position of the control edge (41.4-44.4) of the associated tumbler (31.4-44.4), the lengths or positions (76.1-76.4) of the cutouts (26.4) and/or the positions

of the webs (74.1-74.4) in the cutouts and/or the lengths of the webs are different.

25. (Previously presented) Lock cylinder according to Claim 24, wherein the separating web (74.1-74.4) is positioned essentially at the longitudinal midpoint (75.1-75.4) of the cutout (26.4).

26. (Previously presented) Lock cylinder according to Claim 24, wherein the cutouts (26.4) have two pairs of opposing flanks (27.4a-28.4i),

-- where one of the pairs of opposing flanks (27.4i, 28.4i) is formed by the two terminal edges of the separating web (74.1-74.4), which form inner opposing flanks (27.4i, 28.4i), which face away from each other;

-- whereas the other pair of opposing flanks (27.4a, 28.4a) is formed by the two inner edges at the outer end of the cutout (26.4), which form outer opposing flanks (27.4a, 28.4a), which face each other.

27. (Previously presented) Lock cylinder according to Claim 23, wherein the inner opposing flanks (27.4i, 28.4i) have a

design different from that of the outer opposing flanks (27.4a, 28.4a).

28. (Previously presented) Lock cylinder according to Claim 27, wherein the inner opposing flanks (27.4i, 28.4i) are essentially parallel to the transverse plane (71.4) of the cylinder core (20.4), whereas the outer opposing flanks (27.4a, 28.4a) are at a certain angle to the transverse plane (71.4).

29. (Previously presented) Lock cylinder according to Claim 28, wherein the angles of the two outer opposing flanks (27.4a, 28.4a) are essentially exact mirror images of each other.